PRIMARY UNRUPTURED OVARIAN PREGNANCY AT 12 WEEKS OF GESTATION

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SUMMARY

Objective: To present a rare case of primary unruptured ovarian pregnancy at 12 weeks of gestation.
Case Report: A 32-year-old woman was referred to our hospital because of an ectopic pregnancy. She was generally asymptomatic except for mild tenderness over the lower abdomen. She was found to have an ectopic pregnancy when she came for booking 9 weeks after a positive pregnancy test. A diagnosis of right ovarian pregnancy was made preoperatively, with a fetal size comparable to 11.9 weeks. Laparotomy and right salpingo-oophorectomy were performed. The pathologic examination confirmed the diagnosis of primary ovarian pregnancy.
Conclusions: Although ovarian pregnancy is rare, it is not difficult to differentiate from intra-uterine pregnancy. With the advent of laparoscopic surgery, it is the time of diagnosis rather than the location of the ectopic pregnancy that determines the treatment options. We recommend a routine scan to confirm its location when a pregnancy test is positive. [*Taiwanese J Obstet Gynecol* 2004;43(3):155–158]

Key Words: ovarian pregnancy, laparotomy, laparoscopy, salpingo-oophorectomy, ectopic pregnancy

Introduction

Ovarian pregnancy is a rare form of ectopic pregnancy, with an incidence of 1 in 3,179–7,000 pregnancies, representing less than 1–3.56% of ectopic pregnancies [1–5].

Preoperative diagnosis of ovarian pregnancy is difficult. The ovary usually ruptures before surgical intervention and the patient will require blood transfusion [2,3]. With the advent of transvaginal ultrasound, radioimmunoassay for human chorionic gonadotropin, and laparoscopy, there is an increased chance of establishing an early diagnosis and performing more conservative surgery [3,6–11].

Spiegelberg proposed the diagnostic criteria for primary ovarian pregnancy: the fallopian tube and its fimbriae should be intact and distinctly separate from the ovary; the gestational sac should occupy the normal position of the ovary; the gestational sac should be connected to the uterus by the utero-ovarian ligament; and ovarian tissue should be demonstrated in the specimen attached to the gestational sac [12].

Here, we present a case of primary unruptured ovarian pregnancy at 12 weeks of gestation.

Case Report

A 32-year-old woman, gravida 1 para 0, was referred to our hospital because of an ectopic pregnancy. She was not sure of when her last menstrual period was, but she had a positive pregnancy test 9 weeks prior to admission. As the pregnancy was generally uneventful except for some mild lower abdominal pain, she came for

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booking in an obstetric clinic, and ultrasound showed an ectopic pregnancy in her right adnexa.

She was sexually active and it was a spontaneous conception. She denied use of any intrauterine contraceptive devices or oral pills and she had no history of pelvic inflammatory disease or venereal disease.

Ultrasound examination at our hospital confirmed a right adnexal mass that was 4.7 cm in diameter, with a thick wall and rich blood supply on power Doppler ultrasound (Figures 1 and 2). A live fetus with a 5.5 cm crown–rump length comparable to 11.9 weeks' gestation was found within the mass. The uterus was empty and of normal size. The β-human chorionic gonadotropin (β-hCG) level was 73,187.34 mIU/mL. A working diagnosis of right ovarian pregnancy was made.

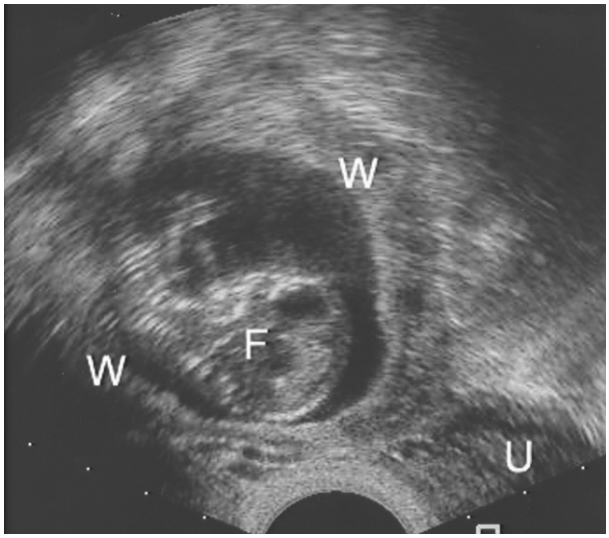

Figure 1. Right adnexal mass with a thick wall (W) containing a live fetus (F). U = uterus.

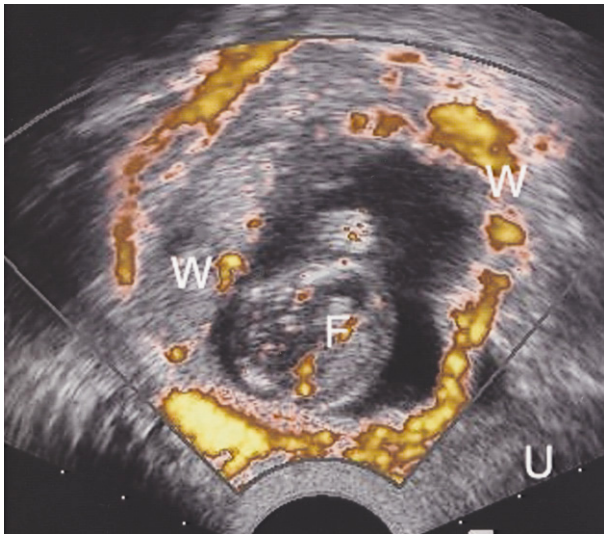

Figure 2. The thick wall (W) has a rich blood supply. F = fetus; U = uterus.

Exploratory laparotomy was performed the next day and a right ovarian pregnancy was found (Figure 3). No evidence of internal bleeding or pelvic adhesion was found in the pelvic cavity. The ovarian mass ruptured when manipulated during surgery and the fetus was expressed from the mass into the pelvic cavity, which led to acute bleeding from the mass (Figure 4). As the left fallopian tube and the left ovary looked normal intra-operatively, right salpingo-oophorectomy was performed. The estimated blood loss was 300 mL.

The pathology report confirmed the diagnosis of ovarian pregnancy. The patient made an uneventful recovery and was discharged on day 5.

Discussion

The incidence of ovarian pregnancy is thought to have increased from 1 in 40,000 pregnancies in 1950 to 1 in 3,179–7,000 pregnancies more recently [1–5]. Punnonen and Lauren reported that the number of ovarian pregnancies diagnosed in the 1970s was four times as great as that in the 1960s, and the proportion of ovarian pregnancies among all ectopic pregnancies increased from 1.5% in the 1960s to 5.4% in the 1970s [13]. Of note is that, in 61% of ovarian pregnancies in the 1970s, the woman had an *in situ* intrauterine contraceptive device when the diagnosis was made [13].

It is reported that the use of an intrauterine contraceptive device is associated with ovarian pregnancy [4,13–23]. Unlike tubal pregnancy, it is not common in cases of ovarian pregnancy to have a history of pelvic inflammatory disease, infertility, or previous pelvic operations [4,5,21–24]. Furthermore, fertility is not compromised after surgery compared to that before operation [19,23,25–27].

The treatment options include oophorectomy, cystectomy, and wedge resection, which can be performed at laparotomy or laparoscopy [1,3–7,9–11,26, 28,29]. Chelmow et al reported a case of ovarian pregnancy with laparoscopic diagnosis and methotrexate treatment [30].

There were no known risk factors in our case that would indicate that the patient was at high risk for ectopic pregnancy; however, if she had had an early scan and an earlier diagnosis, more conservative treatment options might have been available.

In summary, we have reported a case of ovarian pregnancy, at 12 weeks' gestation, without known risk factors for ectopic pregnancy, either ovarian or tubal. With the widespread use of laparoscopic surgery and a high index of suspicion, it is the time of discovery rather than the location of the pregnancy that plays the major

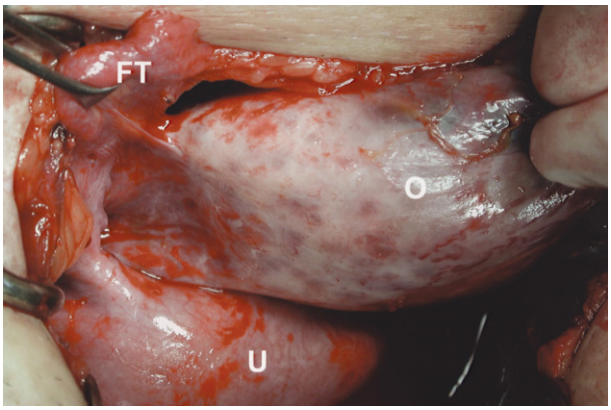

Figure 3. Right ovarian pregnancy was found on exploratory laparotomy. FT = right fallopian tube; O =ovary; U = uterus.

Figure 4. Fetus, right ovary, and right fallopian tube.

role in determining the treatment options. We suggest a routine ultrasound scan to check the location of the pregnancy when a pregnancy test becomes positive, so that earlier and more conservative treatment options are possible in cases of ectopic pregnancy.

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